What is claimed is:

1. A method for coating a quartz burner of a HID lamp with a UV-reflecting layer system by alternatingly applying amorphous thin layers made at least of titanium oxide and silicon oxide having the general stoichiometry TiO_y and SiO_x by means of a PICVD method at high power density and increased substrate temperatures ranging from 100° to 400° C, using small growth rates ranging from 1 nm/sec to 100 nm/sec so as to form an interference layer system having a thickness of less than 1200 nm and a minimized UV-active defective spot rate.

2. The method as recited in Claim 1, via which the titanium oxide and silicon oxide layers having the stoichiometry TiO_2 and SiO_2 are deposited with a defective spot rate of 0.1% to 1%.

3. The method as recited in Claim 1 or 2, via which a layer system having a thickness of < 1200 nm, preferably < 500 nm, is applied.

4. The method as recited in Claim 2 or 3, via which a layer system composed preferably of fifty alternating individual layers of TiO_2 and SiO_2 with layer thicknesses of between 5 nm and 100 nm is applied.

5. The method as recited in Claim 4, via which the layer thicknesses of the individual layers in the layer system are different, and they are distributed differently.

6. The method as recited in one of the Claims 1 through 5 having a PICVD method, via which a pulsed microwave method with a fundamental frequency of 2.45 GHz is used for plasma generation.

7. The method as recited in Claim 6, via which the substrate formed by the quartz burner is maintained at a constant deposition temperature.

8. The method as recited in Claim 7, via which an O_2 plasma is run for substrate heating to maintain a constant temperature, and the temperature is monitored optically by measuring the substrate surface.

9. The method as recited in Claim 2, one of the Claims 3 through 7 and Claim 7, via which the process parameters for the PICVD method for applying the alternating TiO_2/SiO_2 layers at a constant substrate temperature due to O_2 plasma substrate heating are selected as follows:

Parameter	**Substrate heating, O_2 plasma**	**Layers (TiO_2/SiO_2)**
Process pressure (mbar)	0.2	0.1 – 0.5
Total mass flow (sccm)	100	100 – 500
Precursor concentration	-	0.1 – 5%
MW power (%)	70	30 – 60
Pulse duration (ms)	1 – 2	0.1 - 2.5
Pulse pause (ms)	2 – 4	10 – 300
Constant temperature (° C)	350	350

10. The method as recited in one of the Claims 1 through 9, via which the quartz burner is coated in the inside of its jacket.

11. The method as recited in one of the Claims 1 through 10, via which the quartz burner is coated on the outside of its jacket.

12. The method as recited in Claim 5 and one of the following claims, via which constant deposition rates are run, and the measurement of the layer thicknesses is carried out by counting the microwave pulses.